

ABSTRACT

The present invention provides a method and apparatus for generating one or more than one physically detectable physical influence changes to control or manipulate a down hole device. The present invention intercepts existing control signals to various controllers on the rig and superimposes an encoded command on these existing control signals. The controllers comprise of motor drives, choke controllers, acoustic pulse generators, tracer injectors and other controllers that are used to generate a physically detectable changes in the rig environment. The encoded command acting on existing or new controllers generates a perceptible change in a physical parameter such as a variation in drilling mud pressure, a variation in drill string rotation speed, a variation in weight on bit, generation of acoustic pulse, or a variation in tracer injection properties. The physical change is sensed by a down hole device and interpreted as information indicating to the down hole device that it is to execute a command or adjust an operating parameter.

15